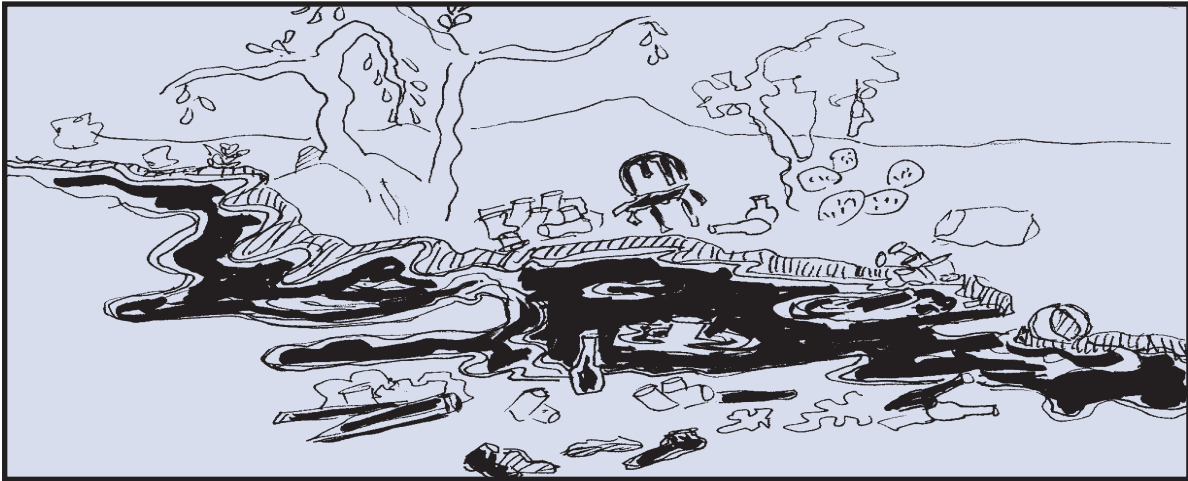


BASURA: ALIAS TRASH



TRASH: CAN WE LIVE WITH IT?

Students will participate in a simulation game that demonstrates the effect trash has on people and the environment.

PAGE 6.3



HOW LONG DOES LITTER LAST

Students will be made aware of different types of pollution problems caused by litter and how to correctly dispose of it.

PAGE 6.6

One of the most significant problems facing the Santa Cruz River watershed is pollution. The river runs through both Mexico and the United States, making it an international concern.

While litter is the most visible form of pollution, chemical leakage and spills as well as organisms and other documented health hazards and diseases such as cancer and lupus exist.

while plastic six-pack holders, string, and sharp objects pose hazards to wildlife. Looking through the trash deposits, one can find oil cans, cleaning supply containers, batteries and an assortment of other hazardous waste materials. Many of these hold harmful chemicals that could leak into the water table. Our landfills are also reaching maximum capacity while we continue to increase the



Every year, hundreds of bags of trash are cleaned out only to be brought back by summer rains. For the most part, the litter comes down from the Nogales wash (both sides of the border), and during the monsoon rains, tons of trash are transported north from both sides of the border.

In addition to its being aesthetically inappropriate, litter continues to be an unresolved problem. We need to help the next generation realize the impact trash has on our present-day and future lives. Habitat is destroyed or compromised,

use of disposable products that virtually may never decompose.

By participating in these activities, students will be made aware of the problems with trash, the environmental impacts caused by littering, and the implications of using disposable products. Students will learn to make educated choices about what to throw away, the importance of reusing and recycling, and how to make a difference so that "Earth Day", (April 22), can truly be celebrated.

JUST TRASH?

Aluminum Cans - not biodegradable; sharp edges may injure wildlife or people; small animals or insects may get trapped inside.

Paper - inks and bleaching chemicals contaminate soil and water.

Plastic six-pack rings - not biodegradable; may strangle wildlife.

Trash in water - may injure aquatic animals that get stuck in or try to eat it; chemicals leak into water.

Household cleaners, chemicals and batteries - harmful chemicals may leak into the soil, water, and air; potentially dangerous if touched.

Glass - broken glass may injure people or wildlife; small creatures may get trapped inside jars or bottles.

Styrofoam and plastic - not biodegradable; may injure animals that mistake bits of plastic for food.

Old tires - may release harmful chemicals into the soil, water, and air.

Candy and gum wrappers - many wrappings do not easily biodegrade.



LESSON OVERVIEW

Students will participate in a simulation game that demonstrates the effect trash has on people and the environment.

Subjects

Natural Science

Science Standards

Science as Inquiry,
Personal and Social
Perspectives,
Life Science

Objectives

Students will:
Recall the negative effects
litter has on humans and
the environment.

Preparation

Find and mark an area
approximately five to
ten feet square. A little
smaller space than your
class would be able to
squeeze into such as a
circle on a basketball

Time

About 20 minutes

Vocabulary

Disease, mosquito,
pollution.

CAN WE LIVE WITH TRASH?

Part 1

1. Find a place where your students can gather around a clearly delineated area. You can mark off an area or use something like the circles on a basketball court. It must be large enough so that most of the class can crowd inside the marked area, but not all.
2. Discuss the various problems associated with trash. Write down key words and concepts.
3. Divide the students equally into the following five groups: people, trash, pigs, mosquitoes, and disease.
4. Explain that an associated sound comes with each group as described in the box on the right.



Designate the sound for each and have each group practice their corresponding sounds.

Part 2

5. Place the group identified as "people" into the the delineated area and explain that the area represents their town. Their job is to enjoy themselves.
6. Locate the other four groups in specified areas not too far from "the town."
7. Ask one representative from the "trash" group to join the people in a circle while chanting, "trash, trash, trash." Then add a representative from each other group, who will also chant, hassling the people in the "town."

People - talk as normal

Trash - chant trash, trash,

Pigs - snort, snort, snort,

Mosquitoes - buzz, buzz

Disease - moans and cries

LESSON 11 - CAN WE LIVE WITH TRASH?

8. Calm the students down and ask them to determine what is happening to the town. Is their life as calm as it was before the others entered?, Why or why not?, Does trash and its pals have a positive or negative effect? Predict what will happen if more trash is added.

9. Give the OK for the trash and other groups inside the circle to start their sounds and ask a second representative from the group "Trash" to join the people in the circle, (everyone is chanting). Add representatives from other groups as explained in step seven.

10. Once again quiet the students down and ask them to determine what is happening to the town. Is the town changing? Why or why not? Do they still want to live there. Predict what will happen if more trash is added.

11. Continue with steps 9 and 10 until all of the delineated "town" is full to capacity, overflowing and the students representing the people are being *litter*-ally squeezed out of town.

12. Hold a discussion about what happened in the simulation game. (Essentially, trash attracts animals such as flies, pigs, and mosquitoes, that can in turn, lead to problems. The environment then becomes polluted opening the door for diseases to enter. Eventually, if left uncontrolled, the town and people will suffer.)

13. Discuss local problems with trash. Is there trash around the school or at home? How about in the river, park, or other natural area? Where does the trash come from?

14. Complete the activity by brainstorming the way in which students can help with the trash problem.



Part 3

1. Plan and execute a community cleanup campaign with your class.

Note: This activity was pioneered by the people of Ecuador where problems with trash are very real. Acknowledging that pigs and other animals all have their place in nature, we must also note that their association with trash is a valid concern.

ENRICHMENT

- Teach other activities related to trash such as "Pollution Patrol" and "Trash Can Do" from *Pollution: Problems and Solutions*, Nature Rick's Nature Scope. See bibliography for other sources.

- Ask students to save their trash from lunch and place it all on a table or specified spot. Discuss the different types of trash and potential threat to the environment.



LESSON OVERVIEW

Students will be made aware of different types of pollution problems caused by litter and how to correctly dispose of it.

Subjects

Science

Science Standards

Science as Inquiry

Objectives

Students will:

1. Evaluate the environmental impact of common litter.
2. Recommend at least one solution to control litter.

Preparation Have available a teacher copy of **Master Page 6.6**; collect litter such as styrofoam cups, glass jars, orange peel, plastic six-pack holder, tin cans, etc.; label objects with a time scale as described on **Master Page 6.6**.

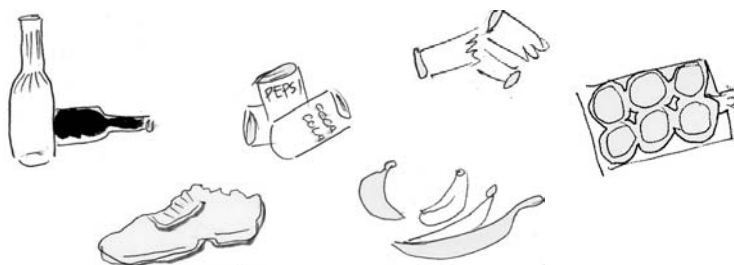
Time

20 - 30 minutes.

Vocabulary

Aluminum, pollution, styrofoam

HOW LONG DOES LITTER LAST?



1. Gather six or more different litter objects from **Master Page 6.6** and label each item with the estimated time required to decompose.
2. Select six or more students and assign each student to the labeled litter objects. Ask them to read the label and then cover it in order to keep the answer a secret.
3. Choose one of the selected students to hold up their object and ask the rest of the class if they can guess how long it will take for the presented litter object to return to the earth. They get three guesses per object. Save plastic bottles or styrofoam for last.
4. As the students guess each object, write the object's name on the board and the corresponding answer.
5. Upon completion, hold a discussion about the implication of litter. What can they do to help? Explore various ways that students can help to alleviate the litter problem.

ENRICHMENT

- Ask students to bring a sack lunch to school and analyze the packaging.
- Have students collect litter to make a room collage or individual collage.
- Start a recycling program with cans and newspapers. Additional items can be added if desired.

How Long Will Litter Last?



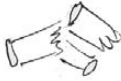
Orange / Banana Peels

Up to 2 years



Wool Socks

1-5 years



Cigarette Butts

1-5 years



Plastic Coated Paper

5 years



Plastic Bags

10-20 years



Plastic Film Container

20-30 years



Nylon Fabric

30-40 years



Leather

Up to 50 years



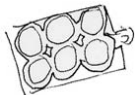
Tin Cans

50 years



Aluminum Cans & Tabs

80-100 years



Plastic Six Pack Holders

100 years



Glass Bottles

1,000,000 years



Plastic Bottles

Indefinitely



Styrofoam

Indefinitely